

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-24. (cancelled)

25. (new) A method comprising the steps of:

providing a communications channel having a code space with a plurality of code

words;

determining dominant error events for said communications channel including

5 effects of said dominant error events on said code words in said code space;

assigning user values to said code words in said code space;

determining a maximum tolerable deviation between user values as submitted for transmission at a first end of said communications channel and corresponding user values as received at a second end of said communications channel;

10 forming groups of interdependent code words in said code space based on said dominant error events;

multiplying the maximum tolerable deviation by two to obtain a maximum number of code words, M, that may directly interdepend with any code word;

removing code words from said code space, so that no code words having more 15 than M directly interdependent code words remain in said code space.

26. (new) The method of claim 25 further including the step of:
reassigning user values to the non-removed code words, such that occurrence of a
dominant error results in a received user value that is within the maximum tolerable
deviation for all user values assigned to the non-removed code words.

27. (new) The method of claim 26 including the steps of:
reassigning two or more user values to one code word.

28. (new) The method of claim 25, wherein said code words are expressed as
m-ary code.

29. (new) The method of claim 25, wherein said communications channel
comprises a channel of a computer disk drive.

30. (new) A method comprising the steps of:
providing a communications channel having a code space with a plurality of code
words;
determining a dominant error event for said communications channel including
5 effects of said dominant error event on said code words in said code space;
assigning user values to said code words in said code space;
determining a maximum tolerable deviation between user values as submitted for
transmission at a first end of said communications channel and corresponding user values
as received at a second end of said communications channel;

10 forming groups of interdependent code words in said code space based on said dominant error event;

multiplying the maximum tolerable deviation by two to obtain a maximum number of code words, M, that may directly interdepend with any code word;

removing code words from said code space, so that no code words having more
15 than M directly interdependent code words remain in said code space.

31. (new) The method of claim 30 further comprising:

determining a second dominant error event for said communications channel.

32. (new) The method of claim 30 further including the step of:
reassigning user values to the non-removed code words, such that occurrence of a dominant error results in a received user value that is within the maximum tolerable deviation for all user values assigned to the non-removed code words.

33. (new) The method of claim 32 including the steps of:

reassigning two or more user values to one code word.

34. (new) The method of claim 30, wherein said code words are expressed as m-ary code.

35. (new) The method of claim 30, wherein said communications channel comprises a channel of a computer disk drive.

36. (new) The method of claim 30, wherein said communications channel can tolerate a difference between a user value as transmitted and a user value as received.